

**REMARKS****Status of Claims**

Claims 1-30 and 55 were pending at the time of this Office Action and were rejected. Claims 1, 4, 5, 8, 12, 19, 25, 28 and 55 have been amended and claim 3 has been canceled without prejudice or disclaimer. Support for the claim amendments can be found throughout the specification and claims as originally filed. For example, support for the amendments to claims 1 and 55 can be found, *inter alia*, in the Specification at page 10, lines 1-3; page 18, lines 23-26; Figure 2, and in claim 3 as originally filed. Therefore, no new matter has been added by way of these amendments.

**Claim Objections**

Claims 8 and 12 have been objected to because of the following alleged informalities: “identical” is misspelled “dential”. OA at page 2. Claims 8 and 12 have been amended to correct the informalities and therefore, this rejection should properly be withdrawn.

**Claim Rejections Under 35 U.S.C. § 102****U.S. Patent No. 7,767,438**

Claims 1-30 and 55 have been rejected under 35 U.S.C. § 102(e) as allegedly being anticipated by Xing et al. (U.S. Patent No. 7,767,438). OA at page 2. Applicants respectfully traverse this rejection for the reasons set forth below.

The legal standard for anticipation under 35 U.S.C. § 102 is one of strict identity. *Trintec Industries, Inc. v. Top-U.S.A. Corp.*, 63 U.S.P.Q.2d 1597 (Fed. Cir. 2002). To anticipate a claim, a single prior source must contain each and every limitation of the claimed invention. *In re Paulson*, 30 F.3d 1475, 1478-79, 31 USPQ2d 1671, 1673 (Fed. Cir. 1994) (citing *In re Spada*, 911 F.2d 705, 708, 15 USPQ2d 1655, 1657 (Fed. Cir. 1990)). “A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single

prior art reference.” *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987); MPEP §2131.

As an initial matter, claim 1 has been amended to recite, *inter alia*, “a microarray chip comprising an enclosure attached to said microarray chip to form a plurality of microarray areas.” Applicants respectfully submit that Xing does not disclose an enclosure attached to the microarray chip to form a plurality of microarray areas. On the other hand, as the Examiner pointed out, the disclosures of Xing “differ from the instantly claimed device in that the patent claims are further drawn to a microarray chip having projections in addition to the instantly claimed cover having projections.” OA at page 3. Therefore, in contrast to the enclosure attached to the microarray chip as claimed in the present invention, Xing discloses projections on the microarray chip. Further, the reaction spaces of Xing are formed between the projections on the microarray chip and the projections on the cover. In contrast, the presently claimed invention recites reaction spaces formed between the microarray areas on the microarray chip and the projections of the cover. Therefore, the structure disclosed by Xing does not contain each and every elements of the presently claimed invention.

Accordingly, Xing fails the strict identity standard for anticipation and this rejection under 35 U.S.C. § 102(e) should properly be withdrawn.

WO 02/000336

Claims 1-3, 5, 11-13, 19-24, 30 and 55 have been rejected under 35 U.S.C. § 102(b) as allegedly being anticipated by Stuelpnagel et al. (WO 02/000336). OA at page 3. Applicants respectfully traverse this rejection for the reasons set forth below.

The legal standard for anticipation has been discussed above. It is said that Stuelpnagel discloses an enclosure to form a plurality of separated microarray areas and reaction spaces. OA at page 4. Applicants respectfully disagree. Stuelpnagel discloses a substrate comprising a plurality of assay locations and a substrate comprising a plurality of array locations enclosed within the hybridization chamber. Stuelpnagel at page 19, lines 4-9 and Figure 7. However, the description

does not include an enclosure attached to the microarray chip as claimed in the present application. An inspection of Figures 7A and 7B reveals that the hybridization chamber is formed between the lid 10 and base cavity 50 in the base plate 60. Stuelpnagel at page 6, lines 18-22. On the other hand, the enclosure is attached to the microarray chip to form a plurality of microarray areas in the presently claimed invention. *See* Specification at page 20, lines 5-27. Therefore, the alleged enclosure of Stuelpnagel constitutes base cavity 50 that is formed as an indentation in the base plate 60, which is distinct from the enclosure attached to the microarray chip as recited in the presently claimed invention.

Accordingly, Stuelpnagel fails the strict identity standard for anticipation and this rejection under 35 U.S.C. § 102(b) should properly be withdrawn.

U.S. Patent No. 7,332,328

Claims 1-24, 30 and 55 have been rejected under 35 U.S.C. 102(e) as allegedly being anticipated by Webb et al. (U.S. Patent No. 7,332,328). OA at page 6. Applicants respectfully traverse this rejection for the reasons set forth below.

The legal standard for anticipation has been discussed above. It is said that Webb discloses an enclosure to from a plurality of separated microarray areas and reaction spaces. OA at page 6. Applicants respectfully disagree. Webb discloses a device having a support structure with a planar surface, and a plurality of microcolumns which project away from the planar surface and fit into wells of a microtiter plate. *See* Webb at column 2, lines 31-67. No enclosure attached to the microarray chip to form a plurality of microarray areas is disclosed by Webb. According to Webb, arrays may be formed either on the first surface of each microcolumn or on the bottom of microtiter plate wells, which represent the microarray areas. Webb at column 4, lines 24-36. Therefore, no equivalence of an enclosure attached to the microarray chip is disclosed in the device of Webb. The distinction between the microtiter plate wells and the enclosure attached to the microarray chip to form a plurality of microarray areas is that the latter allows more flexibility of the size and shape of the enclosure, and hence the microarray areas. *See, e.g.*, Specification at page 10, lines 1-6.

Therefore, Webb fails the strict identity standard for anticipation and this rejection under 35 U.S.C. § 102(e) should properly be withdrawn.

Claim Rejections Under 35 U.S.C. § 103

Claims 25-29 are rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Webb in view of MacBeath et al. (U.S. Patent No. 7,063,979). Applicants respectfully traverse this rejection for the reasons set forth below.

The initial burden to make a *prima facie* case of obviousness is on the Examiner. *In re Bell*, 991 F.2d 781, 783 (Fed. Cir. 1993). To make a *prima facie* case of obviousness, the teachings of the prior art should have suggested the claimed subject matter to the person of ordinary skill in the art, and all the claim limitations must be taught or suggested in the references cited by the Examiner. *In re Kotzab*, 217 F.3d 1365, 1370 (Fed. Cir. 2000). Moreover, “it remains necessary to identify the reason why a person of ordinary skill in the art would have combined the prior art elements in the manner claimed.” *KSR Intl Co. v. Teleflex, Inc.*, 550 U.S. 398 (2007).

It is said that Webb is silent regarding double-sided tape but MacBeath discloses the use of adhesive tape with silicone/rubber chambers. OA at page 10. It is further said that it would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to modify the silicone chamber of Webb by adding the double-sided tape adhesive of MacBeath with a reasonable expectation of success. OA at page 10. Applicants respectfully disagree. Webb discloses a device having a support structure with a planar surface, and a plurality of microcolumns which project away from the planar surface and fit into wells of a microtiter plate. *See* Webb at column 2, lines 31-67. MacBeath discloses a bottomless microtiter plate combined with substrates having microarrays through one or more perforated gaskets in such a way that the individual microarrays end up at the bottom of different wells of the plate, each separated from the other by a water-tight seal. MacBeath at column 1, line 54 – column 2, line 11. One of ordinary of skill in the art would not be motivated to combine the teachings of MacBeath with those of Webb because doing so would have rendered the intended purpose of Webb unsatisfactory. *See* MPEP § 2142.01 (“If proposed modification would render the prior art invention being modified unsatisfactory for its

intended purpose, then there is no suggestion or motivation to make the proposed modification.") (citations omitted). The bottomless microtiter plate disclosed by MacBeath cannot be used to substitute the microtiter plate disclosed by Webb, as doing so would result in a structure unsuitable for the function of the Webb device: forming a plurality of reaction chambers for microarrays. In the absence of any motivation to combine the teachings of the references, neither the references nor the state of the art can provide a reasonable expectation of success for such a modification. Thus, MacBeath's disclosure of double-sided tape adhesive cannot be properly combined with Webb.

Therefore, the Examiner has failed to make a *prima facie* case of obviousness, and this rejection under 35 U.S.C. § 103(a) should properly be withdrawn.

#### Double Patenting

Claims 1-30 and 55 have been rejected on the ground of nonstatutory obviousness-type double patenting as allegedly being unpatentable over claims 1-25 of Xing. It is said that although the conflicting claims are not identical, they are not patentably distinct from each other because both sets of claims are drawn to a device comprising a cover having projections and a microarray chip wherein microarray areas are formed between the projections and chip. OA at page 12. Applicants respectfully traverse this rejection for the reasons set forth below.

As discussed above, in contrast to the enclosure attached to the microarray chip as claimed in the present invention, claims 1-25 Xing recite projections on both the microarray chip and the cover, and a plurality of reaction spaces formed between the first and second projections. Therefore, the presently claimed invention is patentably distinct from that claimed by Xing and this nonstatutory obviousness-type double patenting rejection should properly be withdrawn.

In view of the above, each of the presently pending claims in this application is believed to be in immediate condition for allowance. Accordingly, the Examiner is respectfully requested to withdraw the outstanding rejection of the claims and to pass this application to issue. If it is determined that a telephone conference would expedite the prosecution of this application, the Examiner is invited to telephone the undersigned at the number given below.

In the event the U.S. Patent and Trademark office determines that an extension and/or other relief is required, applicant petitions for any required relief including extensions of time and authorizes the Commissioner to charge the cost of such petitions and/or other fees due in connection with the filing of this document to **Deposit Account No. 03-1952** referencing docket No. 514572002100. However, the Commissioner is not authorized to charge the cost of the issue fee to the Deposit Account.

Respectfully submitted,

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